Email Attachment From: Dr. Owen D. Keene, Heritage Poultry Management Services, Inc.
Subject:

May 5, 2003

Richard Mathews
Program Manager
National Organic Program
USDA-AMS-TM-NOP
1400 Independence Avenue SW
Room 4008-So., Ag Stop 0268
Washington, DC 20250

Dear Mr. Mathews,

Docket Number: TMD-02-03
205.603 Synthetic substances allowed for use in organic livestock production
d1 DL Methionine

I am a poultry nutritionist and formulate many organic feeds for several species of poultry including broilers, turkeys, laying hens, and pullets grown to replace the hens. I would like to make some comments on my support of the use of DL-Methionine in organic poultry feeds.

1. The formulas mentioned above are updated or reformulated either at monthly or weekly intervals and every formula contains a significant level of added DL-Methionine. This is because the first limiting amino acid for poultry is methionine. The reason that methionine is first limiting is because it is used not only for growth and egg production, but also it is metabolized into feather proteins that maintain and replace the feathers. After hatching, birds will replace their feathers 3 or 4 times during the growth phase. When hens begin laying eggs, they are still growing, replacing feathers, and in full production all at the same time. Therefore, it is the critical time when hens need for nutrients are the highest including methionine, which is the first most limiting amino acid.

2. At the present time, there are no organic certified feedstuffs that contain enough methionine to fill the poultry requirement without a significant increase in the total protein of the feed. The total intake of protein per bird would increase by 10% and possibly more. Also nitrogen excretion would increase significantly because very little of this excess protein would be used for egg production or producing body protein.

3. Poultry excrete nitrogen as uric acid or urea. These compounds are further broken down into water and ammonia. The excess protein will increase water excretion by the birds resulting in ideal conditions for bacteria and protozoan disease organisms to reside and multiply in floor pen houses. Excess ammonia will cause a breakdown in the epithelium cells lining the respiratory system. This will allow a greater possibility to invasion of viral and other disease organisms. Also excess protein intake has been associated with the development of kidney stones and gout. In other words, feeding the birds an unbalanced protein will challenge the immune system of the bird. Using DL-Methionine balances the protein for cereal – soybean meal base diets. Feedstuffs higher in Methionine such as corn gluten meal, fishmeal and blood meal have not been organically certified. Hence, they cannot be used to bring up the methionine to an adequate level in organic feeds.

4. In Pennsylvania, nutrient management laws are now in place. These laws are based on nitrogen excretion of animals. Therefore, reducing nitrogen excretion is mandated. Other states, if they haven't already enacted laws, will probably eventually have similar mandates. Therefore, reduction of nitrogen will become more of an environmental concern. I hope the organic association will seriously consider this when reviewing the usage of DL-Methionine. Methionine does reduce nitrogen excretion in poultry.

5. The question of equivalence of DL-Methionine versus L-Methionine in poultry. The first paper to be published on this issue was in 1943 by Grau, C.R. and H. F. Almquest, J. Nutr. 26:631. Down through the years the general consensus of the literature was that the D or L forms of methionine is equal in availability to all poultry species.

6. Modern egg production hens will develop sexual maturity earlier, peaks in production higher and produce more consistent production off eggs with acceptable eggshell quality than they did 50 years ago. Couple these changes along with an inherent reduction in appetite, means that all the essential nutrients, in particular calcium, phosphorus, Methionine and vitamins must be increased to higher levels, requiring precise feed formulation.

7. Recently an article written by M.I. Kahn, university of Connecticut, published in the proceedings of the North American Poultry Health & Management Conference March 2003, indicated that the modern chicken does not tolerate the lack of feed even for a short period of time. Being out of feed will disrupt the best enteric disease program. We have observed this problem in a few of our organic flocks, where very cold winter temperatures occurred. The birds could not eat enough feed to maintain egg production and egg size. The droppings became loose, dirty eggs increased and mortality began to rise. There was no particular pathology, only the enteric disturbance was present. If the birds have to eat more feed to make up for a Methionine deficiency, one can only speculate that those flocks would have suffered a great deal more.

I hope I have expressed some of my concerns about the use of DL-Methionine in organic feeds for poultry. The product has been used for probably 50 years or more. I used it when I mixed experimental feeds in graduate school at the University of Maryland in 1955. The product is safe and I recommend that it is necessary in poultry feeds in order to maintain the best nutrition and health of all the avian species.

Based upon the comments I have presented, I am in favor of modifying the wording currently listed in the Federal Register Vol. 68, No 73 Proposed Rules (7 CFR Part 205.603 d1, to remove the final part of this section, consisting of these words "until October 21, 2005".

If I can be of any further help in this matter, please contact me. My address, phone and fax information is listed below.

Sincerely,

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